

## A NEW SPECIES OF *PECTINARIA* (ASCLEPIADACEAE)

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### ABSTRACT

A new species of *Pectinaria* is described from the lower Breede River Valley. This species, *P. stayneri* M. B. Bayer, is only represented by three plants collected by Mr. F. J. Stayner near Infanta in 1971.

### UITTREKSEL

#### 'N NUWE SOORT *PECTINARIA* (ASCLEPIADACEAE)

Die nuwe soort, *Pectinaria stayneri* M. B. Bayer, is in 1971 deur Mnr. F. J. Stayner naby Infanta versamel. Dit word deur net drie plante verteenwoordig.

### INTRODUCTION

The genus *Pectinaria* Haworth is a somewhat heterogenous one, in which the principle distinguishing character is that the corolla lobes are joined at the tips. This is a character frequently observed in for example *Stapelia rufa* Masson, but the absence of which is used to distinguish *P. mirkinii* Pillans and also *P. tulipiflora* Luckhoff. The coronal structure is the main criterion for the recognition of genera in the tribe *Stapeliae* and in *Pectinaria* this may be of three types. In the first the corona forms an outer pectinate ring with small inner lobes incumbent on the anthers; in the second the outer lobes are reduced, but large dorsal processes are present on the incumbent inner lobes; and thirdly those in which the inner lobes are frequently erect above the anthers, with reduced dorsal processes and outer lobes.

The first group with the pectinate coronal ring includes *P. articulata* Haw. and *P. asperiflora* N. E. Brown. The former species was collected by Thunberg in the Roggeveld mountains in 1773. Brown separated his species on the basis of curious spinescent papillae on the inner surfaces of the corolla. The presence or absence of papillae was never given for *P. articulata* and Brown, in the absence of a type, was not correct in basing a new species on this character alone. Field observations now indicate three closely related elements characterised by having short stout, conically tuberculate stems. These are firstly an element found throughout the Ceres Karoo and part of the Little Karoo and which is usually referred to as *P. asperiflora* because of the spinescent papillae inside the corolla.

Secondly there is the element named as *P. articulata* var. *namaquensis* N. E. Brown from western Bushmanland in which the flower colour is yellowish green and where the papillae are apparently unarmed following the original description. In fact specimens collected from south-east of Springbok have definitely been observed in which the papillae are armed with small concolorous spines. Thirdly there is an as yet unnamed element from northwest of Sutherland collected by H. Hall in which the connivent corolla lobes do not exceed the tube and in which the papillae are long and armed with small blunt tuberculi rather than sharp spines.

In the second group with pronounced dorsal processes on the inner coronal lobes, the stems are thin (less than 1 cm diam.), obtusely 4-angled and the small flowers are creamy-white and purple inside at the base of the tube. *P. arcuata* N. E. Brown was first described from the Bedford area of the eastern Cape as having narrow pointed flowers with typically connivent corolla lobes. *P. mirkinii*, in which the corolla lobes were said to be free, was later described from Steytlerville. A collection by the writer from Knoetze near Willowmore indicated that the only basis for the recognition of *P. mirkinii* is that the corona is much larger than in *P. arcuata* and this character is probably related to the free corolla lobes in the former species. It seems that there is little ground for really treating these as discrete species.

In the third group with erect narrow coronal lobes, four nearly geographically complementary elements can be distinguished. *P. pillansii* N. E. Brown



FIG. 1.

KG/731/71 *Pectinaria stayneri* Bayer sp. nov. from the lower Breede River Valley near Infanta (3420 BD Bredasdorp.)



FIG. 2.

KG 232/62 *Pectinaria saxatalis* N. E. Brown, a form with abnormally narrow flowers from the Hex River Valley at Worcester (3319 CB Worcester.)

from Somerset East is easily separated by its brownish subterranean flower with thick decurved intermediate corolla lobes. *P. breviloba* Dyer from the Robertson Karoo has a characteristic very short lobed flower and the thin stems and growth habit are also characteristic. *P. saxatalis* N. E. Brown is widespread and variable. *P. tulipiflora* Luckhoff from the foot of Van Rhyns Pass was separated on the basis of yellow coronal colour, slender stems, absence of frosted appearance inside the corolla, and "delicate" appearance of the flower. The writer has observed yellow coronal colouration in *P. saxatalis* as it occurs at Laingsburg as well as free corolla lobes which result in the "tulip" shape. In plants collected at Van Rhyns Pass the inside corollae have had sparse pilose hairs and the same minute aculae found in *P. saxatalis*. The only reasonable distinction remaining is that of size and it appears that *P. tulipiflora* is little more than a geographic variant of *P. saxatalis* extending across the Ceres Karoo where this species is uncommon.

The fourth and final element in this group is a species collected by Mr. F. J. Stayner near Infanta at the mouth of the Breede River. *P. saxatalis* is not known south of the Langeberg mountains east of Robertson and in *P. stayneri* described below there are several distinctions. These include the smaller subcampanulate flowers, stems half as thick as in *P. saxatalis* and perhaps the distinctive beehive-like smell.

***Pectinaria stayneri*** M. B. Bayer sp. nov. (Asclepiadaceae—Stapelieae).

*Caules* procumbentes, usque ad 14 cm longi, ad 1 cm crassi, acute tetragoni, glabri, dentati. *Flores* 3-8, aggregati, prope basim remorum juniorum; *pedicelli* 3 mm longi; *corolla* purpurea pallida, subter albida, tubo angusto 3 mm longo, 3 mm diam.; *lobi* 6 mm longi, conniventes vel libere patentes, diam. 5 mm ubi conniventes; *corona* non stipitata; *lobi exteriores* luteus, brevitur deltoidi; *lobi interiores* fuscus, alaeformes, umbonati, 4,5 mm alti, 1 mm lati, apices conniventes.

*Stems* procumbent, dull green, glabrous, up to 14 cm long and 1 cm square, acutely 4-angled with slightly channelled sides and small subretorse deltoid teeth up to 2 mm long, 7-9 mm apart. *Flowers* in clusters of up to 8 at the bases of the younger stems; *pedicels* up to 3 mm long, *sepals* up to 3 mm long, spreading, ovate-acuminate; *corolla* erect or suberect, 3 mm diam. at base, 5 mm across lobes when these are connivent, *tube* 3 mm long, *lobes* 6 mm long connivent or free; *corona* outer lobes small yellow shortly deltoid, less than 1 mm long, inner lobes erect 3 mm long, 0,5 mm broad, hump backed, connivent above anthers. *Flowering* January—May.

*Type*: West bank of the Breede River, about 8 km inland from Infanta, F. J. Stayner KG 731/71 (NBG, holo.).

*P. stayneri* is named in honour of the collector Mr. F. J. Stayner who was curator of the Karoo Botanic Garden from 1959 to 1973. It is probable that this near relative of *P. saxatilis* is confined to the rocky banks of the lower Breede River, growing in association with *Duvalia maculata* N. E. Br. var. *immaculata* Luckhoff, *Gasteria verrucosa* (Mill.) Duv. and other succulents.